Table 8, Continued.

Sample Number	PGP-6	PGP-6	PGP-7	PGP-7	PGP-7Dup	PGP-7	PGP-8	PGP-9	PGP-10
Date Sampled	02/24/93	02/24/93	02/24/93	02/24/93	02/24/93	02/24/93	02/26/93	02/24/93	03/02/903
	18.0-20.0	25-27	13-15	19-21	19-21	24.5-26.5		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
norganics (mg/l)								***************************************	
Aluminum	3.177	3.6%	3 64*	2.0274	1.78%	0.48°UJ	2.46*3	22 U	4.25%
Antimony	0.024UN	0.024UN	0.024UN	0.024UN	0.024UN	0.024UN	0.024UN	0.024UN	0.024UN
Arsenic	0.0038EWANJ	0 0378NJ	e.oga eti ku	g governaci	Q-007288N4	0.002UNJ	0.002UNJ	0,0021BNJ	0.002UNJ
Barium	0.124B	0.174B	0.142B	0.131B	0.128B	0.110B	0.147B	0.118B	0.111B
Beryllium	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U	0.001U
Cadmium	0.002U	0.0023B	0.002U	0.002U	0.002U	0.002U	0.002U	0.002U	0.002U
Calcium	380	292	381	232	230	159	287	269	271
Chromium	0.0114UJ	0.0283J	0.0462J	0.0133UJ	0.0076BUJ	0.0057BUJ	0.013J	0.0128JU	0.0099BUJ
Cobalt	0.0106B	0.01278	Q-02688	0:02128	0.0183 0	0.005U	Q-0078 4 /8	0.005U	0.0074B
Copper	0.0219B	0.0309J	0.0326J	0.0189BU	0.0174BU	0.0073BU	0.020BU	0.0148BU	0.027J
Cyanide (amenable)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cyanide (total)	0.010UN	0.010UN	0.010UN	0.010UN	0.010UN	0.010UN	0.010UN	0.010UN	0.010UN
Iron	11.97	19.173	19-413	12*4	9.98°J	2.36°UJ	9.68°J	7 55,7	\$ 75°J
Lead	0.0198	0.02735	0:5338	0.0329	5.0244	0.0037	0.0133\$	0.01225	£0327
Magnesium	134	96.2	129	80.7	73.6	49.2	89.6	89	107
Manganese	0.825	0.871	1.58	1.04	0.933	0.228	1.53	0.497	G.96
Mercury	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U
Nickel	0.0935J	0.1533	0.1503	0.0392JB	0.03BJ	0.027UJ	0.0548J	0.027UJ	0.027UJ
Potassium	3.4JB	7.81J	3.46BJ	2.34JB	2.13JB	3.66BJ	3.35BJ	1.97BJ	1.74BJ
Selenium	0.001UWNJ	0.0015BNJ	0.001UWN	0.0016BUJ	0.001UNJ	0.001UNJ	0.0013BNUJ	.0029BWNUJ	0.001UWN
Silver	0.003U	0.003U	0.003U	0.003U	0.003UB	0.003U	0.003U	0.003U	0.003U
Sodium	11.2J	9.92J	6.45J	8.79J	8.97J	10.6J	8.33J	12.4J	15.7J
Thallium	0.002UWN	0.002UWN	0.002UWN	0.002UWN	0.002UWN	0.002UN	0.002UN	0.002UN	0.002UN
Vanadium	0.0187BUJ	0.0212BJ	0.0182BUJ	0.0163BJ	0.0122BUJ	0.004UJ	0.0124BUJ	0.0105BUJ	0.0161BU
Zinc	0.166°J	0.305*J	0.224°J	0.0835*UJ	0.067*J	0.0351°UJ	0.178°J	0.064°UJ	0.0712°U.
Volatile Organics (ug/l)				The second second		1011	100	100	100
Acetone	12U	100	160	130	13U	100	100	100	100
Carbon Tetrachloride	100	100	100	100	100	100	100	18	100
1,1-Dichloroethane	100	2J	100	100	100	100	100000000000000000000000000000000000000	\$3	100
1,1-Dichloroethylene	100	100	100	100	100	100	100		100
1,2-Dichloroethene (total)	2J	42	100	100	100	100	100	100	100
1,2-Dichloropropane	100	100	100	100	100	100	100	100	
Ethylbenzene	100	100	100	100	100	100	100	100	100
Methylene Chloride	100	100	100	100	100	100	100	2J	100
Tetrachloroethene	100	10U	100	100	100	100	51	100	100
Toluene	43	100	100	100	100	100	100	10U	100
1,1,1-Trichloroethane	2J	11	2J	14	14	100	82	34GE	15
Trichloroethene	100	34	1J	24	14	100	1204	1400€	100
Xylenes	2,	100	100	100	100	100	100	100	100

NA = Not Analyzed

Table 8, Continued.

Sample Number	PGP-10	PGP-12	PGP-13	PGP-13	PGP-14	PGP-15	PGP-16	PGP-16	PGP-18
Date Sampled	03/02/93	05/21/93	05/21/93	05/21/93	05/21/93	04/29/94	04/29/94	04/29/94	04/29/94
	Duplicate			Duplicate				Duplicate	
norganics (mg/l)	TO AND								
Aluminum	4,5%	2,664	0.330U	0.595	2.75/	23.0	2.564	0-490UJ	12.7
Antimony	0.024UN	0.023U	0.023U	0.023U	0.023U	0.053U	0.053U	0.053U	0.053U
Arsenic	0.002UNJ	0.0061B	0.002U	0.002U	0.0036B	0.0054B	0.0041B	0.002U	0.0065B
Barium	0.0997B	0.918	0.0792B	0.0679B	0.125B	0.430	0.120J	0.0787	0.187B
Beryllium	0.001U	0.001U	0.001U	0.001U	0.001U	0.00178	0.001U	0.001U	0.001B
Cadmium	0.002U	0.003U	0.003U	0.003U	0.003U	0.004U	0.004U	0.004U	0.004U
Calcium	271	493	197	149	213	871	239J	139J	446
Chromium	0.0107UJ	0.0237U	0.0072U	0.0067U	0.0285U	0.110	0.0082B	0.006U	0.0472
Cobalt	0.005U	0,00768	p 00958	0.006U	0.006U	8Q.0	0.009U	0.009U	0.0428
Copper	0.0278J	0.0312	0.0097B	0.0104B	0.0351	0.114	0.023UJ	0.0136UJ	0.137
Cyanide (amenable)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cyanide (total)	0.010UN	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U	0.010U
Iron	20,174	158	2.85U	2.35U	8 74	83.5	10,44	2.03	51.8
Lead	0.0323	0.0198	0.0027U	0.0035U	0.0100	G:0615	0.0071UJ	0.0025UJ	0.044
Magnesium	97.8	64.9	26.1	44.4	71.4	312	75.5	39.3J	157
Manganese	Q.Q\$6	1.74	0.754	0.180U	1,35	5,71	0.8823	0.150J	3,33
Mercury	0.0002U	0.0002U	0.0002U	0.0002U	0.0002U	0.00026	0.0002U	0.0002U	0.00022
Nickel	0.0308BJ	0.03148	0.0209B	0.007U	0.0375B	0.162	0.0146B	0.012U	0.124
Potassium	2.08BJ	6.02	1.54B	2.06B	1.828	5.73	2.83B	2.35B	3.58B
Selenium	0.001UNJ	0.002U	0.002U	0.002U	0.002U	0.002U	0.0028B	0.0034B	0.002U
Silver	0.003U	0.007U	0.007U	0.007U	0.007U	0.006U	0.006U	0.006U	0.006U
Sodium	15.8	15.2	16.8U	27.9	17.8U	30.7	23.5J	23.5J	11.8
Thallium	0.002UN	0.002U	0.002U	0.002U	0.002U	0.002U	0.002U	0.002U	0.0025B
Vanadium	0.0144BUJ	0.0084B	0.005U	0.005U	0.0068B	0.0596	0.0114B	0.008U	0.0412B
	0.0767°UJ	0.160U	0.377	0.063U	0.181U	0.891	0.0397UJ	0.0145UJ	0.359
Zinc	0.0707 00								
Volatile Organics (ug/l)								0511	1011
Acetone	9,/	100	7J	100	100	100	25U	25U	100
Carbon Tetrachloride	100	100	100	100	100	5U	12U	120	5U
1,1-Dichloroethane	100	100	100	100	100	5U	120	12U	5U
1,1-Dichloroethylene	100	100	100	100	100	5U	12U	12U	50
1,2-Dichloroethene (total)	100	100	100	100	100	5U	12U	12U	50
1,2-Dichloropropane	100	100	100	100	100	5U	12U	12U	5U
Ethylbenzene	100	100	100	100	10U	5U	12U	12U	50
Methylene Chloride	100	100	100	100	100	6U	2203	3203	120
Tetrachloroethene	100	100	100	100	100	79	12U	12U	5U
Toluene	100	100	100	100	10U	5U	12U	12U	50
1,1,1-Trichloroethane	13	100	10	11	100	37	100	98	51
Trichloroethene	100	100	22	25	100	75	4001	380	170
Xylenes	100	100	100	100	100	5U	12U	12U	5U

NA = Not Analyzed

Table 9. Summary of Redevelopment Activities, Unit D Monitoring Wells.

Well No.	Date	Elapsed Time (min.)	Flow Rate (GPM)	Volume (gal.)	Total Volume
MW-23	29 July 92	31	3.3	102	
		60	4.0	240	342
	07 Jan. 93	70	2.0	140	140
	16 Feb. 93	90	3.0	270	270
					752
MW-25	29 July 92	32	1.5	48	
		16	1.7	27	
		71	2.0	142	21
	07 Jan. 93	25	2.5	63	
		115	2.0	230	29
	16 Feb. 93	145	2.5	363	36
					87
IT-1A	29 July 92	36	0.7	25	
		52	0.8	42	6
	07 Jan. 93	70	0.8	56	5
	16 Feb. 93	180	0.8	144	14
					26

GPM=Gallons per Minute

JDB/Table11A.wk1

Table 10. RFI Ground Water VOC Screening Analytical Results

	SGP-9	SGP-10	SGP-11	SGP-12	SPG-13	SGP-14
1.1-Dichloroethane	<1.0	<1.0	<1.0	4.7	8.0	<1.0
1,1,1-Trichloroethane	32.8	<1.0	44.2	57.2	99.3	3.7
Tetrachloroethene	53.7	<1.0	8.0	<1.0	<1.0	10.9
Trichloroethene	63.8	<1.0	133.9	319.2	397.7	13.6

	SGP-15	SGP-16	SGP-17	SGP-18	SGP-19	SGP-20
1,1-Dichloroethane	<1.0	18.0	14.3	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	25.8	195.6	103.4	21.2	<1.0	30.4
Tetrachloroethene	136.5	<1.0	5.5	<1.0	<1.0	<1.0
Trichloroethene	53.1	812.3	544.7	107.2	<1.0	271.4

The state of the state of	SGP-21	SGP-22	SGP-23	SGP-24	SGP-25	SGP-26
1.1-Dichloroethane	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	45.4	<1.0	<1.0	17.8	<1.0	35.1
Tetrachloroethene	20.4	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	43.5	<1.0	<1.0	113.7	<1.0	161.9

	SGP-27	SGP-28	SGP-29	SGP-30	SGP-31	SGP-32
1,1-Dichloroethane	<1.0	<1.0	<1.0	<1.0	71.2	<1.0
1,1,1-Trichloroethane	<1.0	<1.0	11.8	16.1	538.5	<1.0
Tetrachloroethene	<1.0	<1.0	44.9	48	1235.1	<1.0
Trichloroethene	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

All results reported in units of Parts Per Billion (PPB) (or ug/l)

ALTERNATIVE 2: MONITORING ESTIMATED CAPITAL COSTS

Project Name:

Amphenol Corp. / Franklin Power Products

Project No.:

07026.08

Costs include installation of additional groundwater monitoring wells required to sample impacted off-site groundwater along Forsythe Street.

Assumptions:

- (1). Three monitoring wells will be required.
- (2). Monitoring wells will be flush mount type.
- (3). Total monitoring well depth is 18 feet.
- (4). Monitoring wells will be 4-inch diameter with 3-foot stainless steel screen and stainless steel casing.
- (5). All work will be done under Level D protection.

SHIPPING FOR THIS PROJECT (%):		10
(cost of shipping equipment to site as a percentage of total equipment cost)		
ENGINEERING FOR THIS PROJECT (%):		20
(estimate of engineering costs is based on total installed cost)		
CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%):		10
(estimate of construction management costs is based on total installed cost)		
CONTINGENCIES FOR THIS PROJECT (%):		20
(based on total installed cost)		

Estimated Capital Costs - Alternative 2: Monitoring

ŒM #			UNIT	Estimated Quantity	Equip't/Mat'l Unit Price	Equip't/Mat'l Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price
1.	Monitorin	ng Well Installation							
	(1).	Mobilization/Demobilization	LS	1	\$430	\$430	\$825	\$825	\$1,25
	(2).	Crew Per Diem Expenses	DY	3	\$0	\$0	\$95	\$285	\$28
	(3).	Mud Drilling (4" diameter borehole)	LF	54	\$6.40	\$346	\$12.30	\$664	\$1,01
	(4).	Filter Pack	LF	9	\$14.74	\$133	\$2.15	\$19	\$15
	(5).	Concrete Surface Pad	EA	3	\$3.50	\$11	\$1.50	\$5	\$1
	(6).	Grout	LF	45	\$1.67	\$75	\$0.00	\$0	\$7
	(7).	Bentonite Seal	EA	3	\$60.37	\$181	\$12.07	\$36	\$21
	(8).	Drums for Well Cuttings	EA	3	\$53.00	\$159	\$0.00	\$0	\$15
	(9).	Manhole Cover	EA	3	\$78.00	\$234	\$26.82	\$80	\$31
	(10).	Well Casing	LF	45	\$43.72	\$1,967	\$2.15	\$97	\$2,06
	(11).	Well Screen	LF	9	\$52.86	\$476	\$2.15	\$19	\$49
	(12).	Move Drill Rig	EA	2	\$25.84	\$52	\$13.40	\$27	\$7
	(13).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$16
	(14).	Drum Disposal	EA	3	\$0.00	\$0	\$50.00	\$150	\$15
2.	Monitorii	ng Well Development							
	(1).	Equipment Rental	WK	1	\$427.00	\$427	\$0.00	\$0	\$42
	(2).	Drums for Purge Water	EA	3	\$53.00	\$159	\$0.00	\$0	\$15
	(3).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$16
3.	Professio	nal Oversight							
	(1).	Field Technician	HR	32	\$0	\$0	\$50.00	\$1,600	\$1,60
	(2).	Hydrogeologist	HR	16	\$0	\$0	\$80.00	\$1,280	\$1,28
4.	Institutio	nal Controls							
	(1).	Deed Restrict/Entry Permit Recom'd	LS	1	\$0	\$0	\$5,000	\$5,000	. \$5,00

SUBTOTAL

\$4,700	\$10,400	\$15,100
SUBTOTAL:		\$15,100
SHIPPING: ENGINEERING: CONSTRUCTION MANAGEMICONTINGENCIES:	ENT:	\$500 \$3,000 \$1,500 \$3,000
TOTAL (CAPITAL COSTS):		\$23,100

ALTERNATIVE 2A: MONITORING; ICM ESTIMATED CAPITAL COSTS

Project Name:

Amphenol Corp. / Franklin Power Products

Project No.:

07026.08

Costs include installation of additional groundwater monitoring wells required to sample impacted off-site groundwater along Forsythe Street.

Assumptions:

- (1). Three monitoring wells will be required.
- (2). Monitoring wells will be flush mount type.
- (3). Total monitoring well depth is 18 feet.
- (4). Monitoring wells will be 4-inch diameter with 3-foot stainless steel screen and stainless steel casing.
- (5). All work will be done under Level D protection.
- (6). ICM air stripping system is in place and operational.

SHIPPING FOR THIS PROJECT (%): (cost of shipping equipment to site as a percentage of total equipment cost) ENGINEERING FOR THIS PROJECT (%): (estimate of engineering costs is based on total installed cost) CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%): (estimate of construction management costs is based on total installed cost) CONTINGENCIES FOR THIS PROJECT (%): (based on total installed cost)

Estimated Capital Costs - Alternative 2A: Monitoring; ICM

TTEM		WORK ITEM	UNIT	Estimated Quantity	Equip't/Mat'l Unit Price	Equip't/Mat'l Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price
1.	Monitorin	ng Well Installation							
	(1).	Mobilization/Demobilization	LS	1	\$430	\$430	\$825	\$825	\$1,255
	(2).	Crew Per Diem Expenses	DY	3	\$0	\$0	\$95	\$285	\$285
	(3).	Mud Drilling (4" diameter borehole)	LF	54	\$6.40	\$346	\$12.30	\$664	\$1,010
	(4).	Filter Pack	LF	9	\$14.74	\$133	\$2.15	\$19	\$152
	(5).	Concrete Surface Pad	EA	3	\$3.50	\$11	\$1.50	\$5	\$15
	(6).	Grout	LF	45	\$1.67	\$75	\$0.00	\$0	\$75
	(7).	Bentonite Seal	EA	3	\$60.37	\$181	\$12.07	\$36	\$217
	(8).	Drums for Well Cuttings	EA	3	\$53.00	\$159	\$0.00	\$0	\$159
	(9).	Manhole Cover	EA	3	\$78.00	\$234	\$26.82	\$80	\$314
	(10).	Well Casing	LF	45	\$43.72	\$1,967	\$2.15	\$97	\$2,064
	(11).	Well Screen	LF	9	\$52.86	\$476	\$2.15	\$19	\$495
	(12).	Move Drill Rig	EA	2	\$25.84	\$52	\$13.40	\$27	\$78
	(13).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$160
	(14).	Drum Disposal	EA	3	\$0.00	\$0	\$50.00	\$150	\$150
2.	Monitori	ng Well Development							
	(1).	Equipment Rental	WK	1	\$427.00	\$427	\$0.00	\$0	\$427
	(2).	Drums for Purge Water	EA	3	\$53.00	\$159	\$0.00	\$0	\$159
	(3).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$160
3.	Professio	nal Oversight							
	(1).	Field Technician	HR	32	. \$0	\$0	\$50.00	\$1,600	\$1,600
	(2).	Hydrogeologist	HR	16	\$0	\$0	\$80.00	\$1,280	\$1,280
4.	Institutio	nal Controls							
	(1).	Deed Restrict/Entry Permit Recom'd	LS	1	\$0	\$0	\$5,000	\$5,000	\$5,000

SUBTOTAL

\$4,700	\$10,400	\$15,100
SUBTOTAL:	_	\$15,100
SHIPPING: ENGINEERING: CONSTRUCTION MANAGE	EMENT:	\$500 \$3,000 \$1,500 \$3,000
CONTINGENCIES: TOTAL (CAPITAL COSTS)		\$23,100

ALTERNATIVE 3: MONITORING; ICM; GROUNDWATER SPARGING AND SVE ESTIMATED CAPITAL COSTS

Project Name: Project No.:

Amphenol Corp. / Franklin Power Products

07026.08

Costs include installation of additional groundwater monitoring wells required to sample impacted off-site groundwater along Forsythe Street. Costs also include installation of air sparging wells, SVE wells, and associated equipment.

Assumptions:

- (1). Three monitoring wells will be required.
- (2). Monitoring wells will be flush mount type.
- (3). Total monitoring well depth is 18 feet.
- (4). Monitoring wells will be 4-inch diameter with 3 foot stainless steel screen and stainless steel casing.
- (5). All work will be done under Level D protection.
- (6). Twenty-two air sparging wells will be installed; five SVE wells will be installed.
- (7). Total sparging well depth is 26 feet; total SVE well depth is 10 feet.
- (8). Sparging wells will be 2-inch diameter with 2-foot stainless steel screen and stainless steel casing.
- (9). SVE wells will be 4-inch diameter with 5-foot PVC screen and PVC casing.
- (10). Air sparging and SVE wells will be on rotating operation to limit size requirements of blowers.
- (11). No control of SVE system vapor emissions is included.
- (12). ICM air stripping system is in place and operational.

SHIPPING FOR THIS PROJECT (%):	10
(cost of shipping equipment to site as a percentage of total equipment cost)	
ENGINEERING FOR THIS PROJECT (%):	20
(estimate of engineering costs is based on total installed cost)	
CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%):	10
(estimate of construction management costs is based on total installed cost)	
CONTINGENCIES FOR THIS PROJECT (%):	20
(based on total installed cost)	

Estimated Capital Costs - Alternative 3: Monitoring; ICM; Groundwater Sparging and SVE

пем				Estimated	Equip't/Mat'l Unit	Equip't/Mat'1 Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price
#		WORK ITEM	UNIT	Quantity	Price	FILEE	rite	Thee	
1.	Monitorin	g Well Installation							
	(1).	Mobilization/Demobilization	LS	1	\$430	\$430	\$825	\$825	\$1,255
	(2).	Crew Per Diem Expenses	DY	3	\$0	\$0	\$95	\$285	\$285
		Mud Drilling (4" diameter borehole)	LF	54	\$6.40	\$346	\$12.30	\$664	\$1,010
	(3).	Filter Pack	LF	9	\$14.74	\$133	\$2.15	\$19	\$152
	(4).	Concrete Surface Pad	EA	3	\$3.50	\$11	\$1.50	\$5	\$15
	(5).	Grout	LF	45	\$1.67	\$75	\$0.00	\$0	\$75
	(6).	Bentonite Seal	EA	3	\$60.37	\$181	\$12.07	\$36	\$217
	(7). (8).	Drums for Well Cuttings	EA	3	\$53.00	\$159	\$0.00	\$0	\$159
	(9).	Manhole Cover	EA	3	\$78.00	\$234	\$26.82	\$80	\$314
	(10).	Well Casing	LF	45	\$43.72	\$1,967	\$2.15	\$97	\$2,064
	(11).	Well Screen	LF	9	\$52.86	\$476	\$2.15	\$19	\$495
	(11).	Move Drill Rig	EA	2	\$25.84	\$52	\$13.40	\$27	\$78
	(12).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$160
		Drum Disposal	EA	3	\$0.00	\$0	\$50.00	\$150	\$150
	(14).	Drum Disposai							
2.	Monitori	ng Well Development							
	(1).	Equipment Rental	WK	1	\$427.00	\$427	\$0.00	\$0	\$427
		Drums for Purge Water	EA	3	\$53.00	\$159	\$0.00	\$0	\$159
	(2).	Decontamination	EA	3	\$8.00		\$45.00	\$135	\$160
	(3).	Decontamination		e de la Transie					
3.	Professio	onal Oversight							
	(1)	Field Technician	HR	32	\$0	\$0	\$50.00	\$1,600	\$1,600
	(1).		HR	16	\$0		\$80.00	\$1,280	\$1,280
	(2).	Hydrogeologist	1111	.0		7 6 4 6 6 7			
4.	Institutio	onal Controls							
	(1).	Deed Restrict/Entry Permit Recom'd	LS	1	\$0	\$0	\$5,000	\$5,000	\$5,000

5.	Air	Sparging	Wells
2.	ANA	o pour Barrie	110440

Crew Per Diem Expenses	DY	11	\$0	\$0	\$95	\$1,045	\$1,045
		572	\$4.90	\$2,803	\$11.60	\$6,635	\$9,438
	LF	44	\$8.50	\$374	\$1.50	\$66	\$440
	EA	22	\$3.50	\$77	\$1.50	\$33	\$110
하나 있다면 내가 있었다면 하는 것이 없는 것이 없는 것이 없다면 없다.	LF	528	\$1.11	\$586	\$0.00	\$0	\$586
기가 하게 하는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는 것이다.	EA	22	\$25.00	\$550	\$6.00	\$132	\$682
		22	\$53.00	\$1,166	\$0.00	\$0	\$1,166
BARK BRIDE IN 2016 - 1915 - 1916 BRIDE		22	\$78.00	\$1,716	\$26.82	\$590	\$2,306
		528	\$19.30	\$10,190	\$1.69	\$892	\$11,083
네트 나는 얼굴에 들어보면서 불러 주요를 하지 않는데 되지 않는데 얼굴 나는 사람이 되었다.		44	\$44.32	\$1,950	\$1.43	\$63	\$2,013
일본 그들은 이번 그들은 그리고 있다면 하는 것이 없는 사람들은 사람들이 되었다.		21	\$25.84	\$543	\$13.40	\$281	\$824
		1		\$10	\$60.00	\$60	\$70
Drum Disposal	EA	22	\$0.00	\$0	\$325.00	\$7,150	\$7,150
	Crew Per Diem Expenses Mud Drilling (2" diameter borehole) Filter Pack Concrete Surface Pad Grout Bentonite Seal Drums for Well Cuttings Manhole Cover Well Casing (2" S.S.) Well Screen (2" S.S.) Move Drill Rig Decontamination Drum Disposal	Mud Drilling (2" diameter borehole) Filter Pack Concrete Surface Pad Grout Bentonite Seal Drums for Well Cuttings Manhole Cover Well Casing (2" S.S.) Well Screen (2" S.S.) Move Drill Rig Decontamination LF LF LF LF LF EA LF EA	Mud Drilling (2" diameter borehole) Filter Pack Concrete Surface Pad Grout Bentonite Seal Drums for Well Cuttings Manhole Cover Well Casing (2" S.S.) Well Screen (2" S.S.) Move Drill Rig Decontamination LF 572 LF 44 LF 528 EA 22 LF 528 LF 528 LF 528 LF 44 Move Drill Rig Decontamination	Mud Drilling (2" diameter borehole) LF 572 \$4.90 Filter Pack LF 44 \$8.50 Concrete Surface Pad EA 22 \$3.50 Grout LF 528 \$1.11 Bentonite Seal EA 22 \$25.00 Drums for Well Cuttings EA 22 \$53.00 Manhole Cover EA 22 \$78.00 Well Casing (2" S.S.) LF 528 \$19.30 Well Screen (2" S.S.) LF 44 \$44.32 Move Drill Rig EA 21 \$25.84 Decontamination EA 1 \$10.00	Mud Drilling (2" diameter borehole) LF 572 \$4,90 \$2,803 Filter Pack LF 44 \$8.50 \$374 Concrete Surface Pad EA 22 \$3.50 \$77 Grout LF 528 \$1.11 \$586 Bentonite Seal EA 22 \$25.00 \$550 Drums for Well Cuttings EA 22 \$53.00 \$1,166 Manhole Cover EA 22 \$78.00 \$1,716 Well Casing (2" S.S.) LF 528 \$19.30 \$10,190 Well Screen (2" S.S.) LF 44 \$44.32 \$1,950 Move Drill Rig EA 21 \$25.84 \$543 Decontamination EA 1 \$10.00 \$10	Crew Per Diem Expenses DT TI Mud Drilling (2" diameter borehole) LF 572 \$4.90 \$2,803 \$11.60 Filter Pack LF 44 \$8.50 \$374 \$1.50 Concrete Surface Pad EA 22 \$3.50 \$77 \$1.50 Grout LF 528 \$1.11 \$586 \$0.00 Bentonite Seal EA 22 \$25.00 \$550 \$6.00 Drums for Well Cuttings EA 22 \$53.00 \$1,166 \$0.00 Manhole Cover EA 22 \$78.00 \$1,716 \$26.82 Well Casing (2" S.S.) LF 528 \$19.30 \$10,190 \$1.69 Well Screen (2" S.S.) LF 44 \$44.32 \$1,950 \$1.43 Move Drill Rig EA 21 \$25.84 \$543 \$13.40 Decontamination EA 1 \$10.00 \$10 \$60.00	Crew Per Diem Expenses DT II 50 \$4,90 \$2,803 \$11.60 \$6,635 Mud Drilling (2" diameter borehole) LF 572 \$4,90 \$2,803 \$11.60 \$6,635 Filter Pack LF 44 \$8.50 \$374 \$1.50 \$66 Concrete Surface Pad EA 22 \$3.50 \$77 \$1.50 \$33 Grout LF 528 \$1.11 \$586 \$0.00 \$0 Bentonite Seal EA 22 \$25.00 \$550 \$6.00 \$132 Drums for Well Cuttings EA 22 \$53.00 \$1,166 \$0.00 \$0 Manhole Cover EA 22 \$78.00 \$1,716 \$26.82 \$590 Well Casing (2" S.S.) LF 528 \$19.30 \$10,190 \$1.69 \$892 Well Screen (2" S.S.) LF 44 \$44.32 \$1,950 \$1.43 \$63 Move Drill Rig EA 21 \$25.84 \$543 \$13.40

6. SVE Well Drilling & Completion

w Per Diem Expenses d Drilling (4" diameter borehole)	LF						
d Dinning (4 diameter corenors)		50	\$6.40	\$320	\$12.30	\$615	\$935
er Pack	LF	25	\$14.74	\$369	\$2.15	\$54	\$422
		. 5	\$11.70	\$59	\$2.80	\$14	\$73
		25		\$42	\$0.00	\$0	\$42
		5			\$12.07	\$60	\$362
		4				\$0	\$212
		5				\$134	\$659
		25					\$366
							\$416
							\$157
		4					\$70
contamination		1					\$980
ım Disposal	EA	3	\$0.00	20	\$323.00	\$973	\$300
֡	ncrete Surface Pad out ntonite Seal ams for Well Cuttings Manhole Cover all Casing (4" PVC) all Screen (4" PVC) ove Drill Rig contamination am Disposal	out Intonite Seal Intonite Sea	out LF 25 Intonite Seal EA 5 Important EA 6 Important EA 1 Importa	Dut LF 25 \$1.67 Intonite Seal EA 5 \$60.37 Imms for Well Cuttings EA 4 \$53.00 Imms for Well Cuttings EA 5 \$105.00 Ill Casing (4" PVC) LF 25 \$12.50 Ill Screen (4" PVC) LF 25 \$14.50 Ive Drill Rig EA 4 \$25.84 Icontamination EA 1 \$10.00	Difference Surface Fad Dut LF 25 \$1.67 \$42 Difference Surface Fad Dut LF 25 \$1.67 \$42 \$302 \$302 \$105 \$105.00 \$212 \$105.00 \$212 \$105.00 \$255 \$1105.00 \$255 \$1105.00 \$255 \$1105.00 \$255 \$1105.00 \$255 \$1105.00 \$255 \$1105.00 \$255 \$25 \$25 \$25 \$25 \$313 \$25 \$25 \$313 \$325 \$325 \$325 \$333 \$335 \$345 \$355 \$363 \$363 \$363 \$365 \$363 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$365 \$	Dut LF 25 \$1.67 \$42 \$0.00 but tonite Seal EA 5 \$60.37 \$302 \$12.07 but stonite Seal EA 4 \$53.00 \$212 \$0.00 but seal EA 5 \$105.00 \$212 \$0.00 but seal EA 5 \$105.00 \$525 \$26.82 but seal EA 5 \$105.00 \$525 \$26.82 but seal EA 5 \$105.00 \$313 \$2.15 but Screen (4" PVC) LF 25 \$12.50 \$313 \$2.15 but Screen (4" PVC) LF 25 \$14.50 \$363 \$2.15 but seal EA 4 \$25.84 \$103 \$13.40 but seal EA 1 \$10.00 \$10 \$60.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.00 \$325 \$00.	Dut LF 25 \$1.67 \$42 \$0.00 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$

7. Air Sparging Header Piping, Lateral Piping, Valves

(1)	Header Piping (6-inch)	LF	775	\$4.08	\$3,162	\$5.21	\$4,038	\$7,200
(1).	Lateral Piping (2-inch, 10 LF each well)	LF	220	\$1.45	\$319	\$5.46	\$1,201	\$1,520
(2).	Trenching/Backfill/Compaction	LF	850	\$0	\$0	\$5.50	\$4,675	\$4,680
(4).	Flow Monitoring Stations	EA	22	\$100	\$2,200	\$20.00	\$440	\$2,640

	(5)	Indian Values	EA	22	\$65	\$1,430	\$16.56	\$364	\$1,794
	(5).	Isolation Valves	EA	22	\$65	\$1,430	\$16.56	\$364	\$1,794
	(6).	Throttling valves	EA	24	ΨΟ3	Ψ1,130			
8.	Air Sparg	ing Blower and Accessories							
	(1).	Blower (250 CFM @ 10 PSIG)	EA	1	\$8,400	\$8,400	\$750	\$750	\$9,150
	(2).	Suction and Discharge Piping (6-inch)	LS	1	\$500	\$500	\$500	\$500	\$1,000
	(3).	Electrical Terminations	LS	1	\$0	\$0	\$500	\$500	\$500
9.	Soil Vapo	or Extraction Header Piping, Lateral Piping,	and Valves						
	(1)	Header Piping (6-inch)	LF	625	\$4.08	\$2,550	\$5.21	\$3,256	\$5,806
	(1).	Lateral Piping (2-inch)	LF	60	\$1.45	\$87	\$5.46	\$328	\$415
	(2).	Trenching/Backfill/Compaction	LF	300	\$0	\$0	\$5.50	\$1,650	\$1,650
	(3).	Flow Monitoring Stations	EA	5	\$100	\$500	\$20.00	\$100	\$600
	(4).	Isolation Valves	EA	5	\$65	\$325	\$16.56	\$83	\$408
	(5). (6).	Throttling valves	EA	5	\$65	\$325	\$16.56	\$83	\$408
10.	Soil Vapo	or Extraction Blower and Accessories							
	(1).	Blower (400 CFM @ 60" w.c. vac)	EA	1	\$13,200	\$13,200	\$235	\$235	\$13,435
	(2).	Suction and Discharge Piping (6-inch)	LS	1	\$500	\$500	\$500	\$500	\$1,000
	(3).	Electrical Terminations	LS	1	\$0	\$0	\$500	\$500	\$500
11.	Enclosur	e							
	(1)	W1 Cided Storner Corner	SF	80	\$12	\$960	\$15	\$1,200	\$2,160
	(1).	Wood Sided Storage Garage	SF	80	\$3.75	\$300	\$1.75	\$140	\$440
	(2).	8" slab on grade	EA	10	\$30.00	\$300	\$20.00	\$200	\$500
	(4).	Signage	BA.	10	450.00				
12.	Utilities								
	(1).	Electrical Service to Enclosure	LS	1	\$500.00	\$500	\$1,500.00	\$1,500	\$2,000
		SUBTOTAL.				\$64.300		\$52,200	\$116,500
		SUBTOTAL:				\$64,300		\$52,200	\$

SUBTOTAL:	\$116,500
SHIPPING:	\$6,400
ENGINEERING:	\$23,300
CONSTRUCTION MANAGEMENT:	\$11,700
CONTINGENCIES:	\$23,300
TOTAL (CAPITAL COSTS):	\$181,200

ALTERNATIVE 4: MONITORING; ICM; EXCAVATION OF IMPACTED SOIL; ON-SITE AERATION ESTIMATED CAPITAL COSTS

Project Name:

Amphenol Corp. / Franklin Power Products

Project No.:

07026.08

Costs include installation of additional groundwater monitoring wells required to sample impacted off-site groundwater along Forsythe Street. Costs also include the excavation and on-site aeration of the soil.

Excavated overburden will be replaced immediately; impacted soils will be replaced following treatment.

Groundwater collected from the excavation will be staged, treated, and discharged to the sanitary sewer.

Assumptions:

- (1). Three monitoring wells will be required.
- (2). Monitoring wells will be flush mount type.
- (3). Total monitoring well depth is 18 feet.
- (4). Monitoring wells will be 4-inch diameter with 3 foot stainless steel screen and stainless steel casing.
- (5). Depth to water table is from 14 to 15 feet at the excavation site.
- (6). Soil excavation expansion factor is 1.2.
- (7). Groundwater volume requiring disposal is based on a sand porosity of 25% and assumes that clay soils will have minimal free water.
- (8). Depth of soil excavation is 20 feet using a 1:1 side slope.
- (9). All work can be conducted under level D protection.
- (10). ICM air stripping system is in place and operational; no impact on system from excavation.
- (11). No air monitoring required during excavation.

SHIPPING FOR THIS PROJECT (%): (cost of shipping equipment to site as a percentage of total equipment cost) ENGINEERING FOR THIS PROJECT (%): (estimate of engineering costs is based on total installed cost) CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%): (estimate of construction management costs is based on total installed cost) CONTINGENCIES FOR THIS PROJECT (%): (based on total installed cost)

Estimated Capital Costs - Alternative 4: Monitoring; ICM; Excavation/Aeration of Impacted Soil

EM #		WORK ITEM	UNIT	Estimated Quantity	Equip't/Mat'l Unit Price	Equip't/Mat'l Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price
9 8 050000000	Monitorin	ng Well Installation			Marin Ag				
	(1).	Mobilization/Demobilization	LS		\$430	\$430	\$825	\$825	\$1,25
	(2).	Crew Per Diem Expenses	DY	3	\$0	\$0	\$95	\$285	\$28.
	(3).	Mud Drilling (4" diameter borehole)	LF	54	\$6.40	\$346	\$12.30	\$664	\$1,01
	(4).	Filter Pack	LF	9	\$14.74	\$133	\$2.15	\$19	\$15
	(5).	Concrete Surface Pad	EA	3	\$3.50	\$11	\$1.50	\$5	\$1
	(6).	Grout	LF	45	\$1.67	\$75	\$0.00	\$0	\$7
	(7).	Bentonite Seal	EA	3	\$60.37	\$181	\$12.07	\$36	\$21
	(8).	Drums for Well Cuttings	EA	3	\$53.00	\$159	\$0.00	\$0	\$15
	(9).	Manhole Cover	EA	3	\$78.00	\$234	\$26.82	\$80	\$31
	(10).	Well Casing	LF	45	\$43.72	\$1,967	\$2.15	\$97	\$2,06
	(11).	Well Screen	LF	9	\$52.86	\$476	\$2.15	\$19	\$49
	(12).	Move Drill Rig	EA	2	\$25.84	\$52	\$13.40	\$27	\$7
	(13).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$16
	(14).	Drum Disposal	EA	3	\$0.00	\$0	\$50.00	\$150	\$15
2.	Monitoria	ng Well Development							
	(1).	Equipment Rental	wĸ	1	\$427.00	\$427	\$0.00	\$0	\$42
	(2).	Drums for Purge Water	EA	3	\$53.00	\$159	\$0.00	\$0	\$15
	(3).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$16
3.	Professio	nal Oversight							
	(1).	Field Technician	HR	32	\$0	\$0	\$50.00	\$1,600	\$1,60
	(2).	Hydrogeologist	HR	16	\$0	\$0	\$80.00	\$1,280	\$1,28
4.	Institution	nal Controls							
	(1).	Deed Restrict/Entry Permit Recom'd	LS	1	\$0	\$0	\$5,000	\$5,000	\$5,0

5.	Excavation	n of Contaminated Soils and Replacement o	f Overburde	n					
	(1).	Mobilization/demobilization	LS	1	\$0	\$0	\$1,000	\$1,000	\$1,000
	(2).	Crew Per Diem Expenses	DY	14	\$0	\$0	\$95	\$1,330	\$1,330
	(3).	Excavate	CY	4400	\$0	\$0	\$1.83	\$8,052	\$8,052
	(5).	Replace overburden (stockpiled)	CY	3770	\$0	\$0	\$1.38	\$5,203	\$5,203
	(6).	Compaction	CY	3770	\$0	\$0	\$2.27	\$8,558	\$8,558
	(7).	Soil sampling/analysis for verification	EA	10	\$0	\$0	\$215.00	\$2,150	\$2,150
	(8).	Decontamination	EA	2	\$30.00	\$60	\$200.00	\$400	\$460
6.	Groundw	ater Handling and Disposal							
	(1).	4" pump, including hose	DY	10	\$39.90	\$399	\$67.50	\$675	\$1,070
	(2).	Modular Tank Rental (8,000 gal)	MN	1	\$2,500	\$2,500	\$750	\$750	\$3,250
	(3).	Water aeration with blower	MN	1	\$1,200	\$1,200	\$300	\$300	\$1,500
	(4).	Disposal of recovered groundwater	GAL	7000	\$0	\$0	\$0.01	\$70	\$70
7.	On-Site	Aeration							
	(1).	Place Soils In Windrows	CY	630	\$0	\$0	\$3.10	\$1,953	\$1,953
	(2).	Soil Aeration by Tilling	DY	10	\$0	\$0	\$500	\$5,000	\$5,000
	(3).	Composite soil sampling and analysis	EA	20	\$0	\$0	\$225.00	\$4,500	\$4,500
	(4).	Fencing (6 ft chain link)	LF	1600	\$9.00	\$14,400	\$1.00	\$1,600	\$16,000
8.	Replacer	nent of Treated Soils and Topsoil							
	(1).	Mobilization/demobilization	LS	1	\$0	\$0	\$750	\$750	\$750
	(2).	Crew Per Diem Expenses	DY	6	\$0	\$0	\$95	\$570	\$570
	(3).	Replace Treated Soils	CY	630	\$0	\$0	\$1.75	\$1,103	\$1,103
	(4).	Replace Topsoil (stockpiled)	CY	100	\$0	\$0	\$1.38	\$138	\$138
	(5).	Compaction	CY	700	\$0	\$0	\$2.27	\$1,589	\$1,589
	(6).	Fine grading and seeding	SY	980	\$0.22	\$216	\$1.69	\$1,656	\$1,872
		SUBTOTAL				\$23,500		\$57,700	\$81,200

SUBTOTAL:	\$81,200
SHIPPING:	\$2,400
ENGINEERING:	\$16,200
CONSTRUCTION MANAGEMENT	\$8,100
CONTINGENCIES:	\$16,200
TOTAL (CAPITAL COSTS):	\$124,100

ALTERNATIVE 4A: MONITORING; ICM; EXCAVATION OF IMPACTED SOIL; OFF-SITE DISPOSAL ESTIMATED CAPITAL COSTS

Project Name:

Amphenol Corp. / Franklin Power Products

Project No.:

07026.08

Costs include installation of additional groundwater monitoring wells required to sample impacted off-site groundwater along Forsythe Street. Costs also include the excavation and off-site disposal of on-site soil at a Type II landfill.

Excavated soil will be replaced with clean fill brought from off-site.

Groundwater collected from the excavation will be staged, treated, and discharged to the sanitary sewer.

Assumptions:

- (1). Three monitoring wells will be required.
- (2). Monitoring wells will be flush mount type.
- (3). Total monitoring well depth is 18 feet.
- (4). Monitoring wells will be 4-inch diameter with 3 foot stainless steel screen and stainless steel casing.
- (5). Depth to water table is from 14 to 15 feet at the excavation site.
- (6). Soil excavation expansion factor is 1.2.
- (7). Groundwater volume requiring disposal is based on a sand porosity of 25% and assumes that clay soils will have minimal free water.
- (8). Depth of soil excavation is 20 feet using a 1:1 side slope.
- (9). All work can be conducted under level D protection.
- (10). ICM air stripping system is in place and operational; no impact on system from excavation.
- (11). No air monitoring required during excavation.
- (12). Off-site disposal will require incineration of the contaminated soils; disposal as a non-hazardous material.

SHIPPING FOR THIS PROJECT (%):	10
(cost of shipping equipment to site as a percentage of total equipment cost) ENGINEERING FOR THIS PROJECT (%):	20
(estimate of engineering costs is based on total installed cost) CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%):	10
(estimate of construction management costs is based on total installed cost) CONTINGENCIES FOR THIS PROJECT (%):	20
(based on total installed cost)	

Estimated Capital Costs - Alternative 4A: Monitoring; ICM; Excavation/Disposal of Impacted Soil

EM #		WORK ITEM	UNIT	Estimated Quantity	Equip't/Mat'l Unit Price	Equip't/Mat'l Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price
18608900000	Monitorin	ng Well Installation			100				
			1.0	1	\$430	\$430	\$825	\$825	\$1,25
	(1).	Mobilization/Demobilization	LS DY	3	\$0	\$0	\$95	\$285	\$28
	(2).	Crew Per Diem Expenses	LF	54	\$6.40	\$346	\$12.30	\$664	\$1,01
	(3).	Mud Drilling (4" diameter borehole)	LF	9	\$14.74	\$133	\$2.15	\$19	\$15
	(4).	Filter Pack	EA	3	\$3.50	\$11	\$1.50	\$5	\$1
	(5).	Concrete Surface Pad	LF	45	\$1.67	\$75	\$0.00	\$0	\$7
	(6).	Grout	EA	3	\$60.37	\$181	\$12.07	\$36	\$21
	(7).	Bentonite Seal	EA	3	\$53.00	\$159	\$0.00	\$0	\$15
	(8).	Drums for Well Cuttings	EA	3	\$78.00	\$234	\$26.82	\$80	\$31
	(9).	Manhole Cover	LF	45	\$43.72	\$1,967	\$2.15	\$97	\$2,06
	(10).	Well Casing	LF	9	\$52.86	\$476	\$2.15	\$19	\$49
	(11).	Well Screen	EA	2	\$25.84	\$52	\$13.40	\$27	\$7
	(12).	Move Drill Rig	EA	3	\$8.00	\$24	\$45.00	\$135	\$16
	(13).	Decontamination		3	\$0.00	\$0	\$50.00	\$150	\$15
	(14).	Drum Disposal	EA	3	\$0.00	3 0	\$30.00	\$130	Φ1.
2.	Monitoria	ng Well Development							
	(1).	Equipment Rental	WK	1	\$427.00	\$427	\$0.00	\$0	\$42
	(2).	Drums for Purge Water	EA	3	\$53.00	\$159	\$0.00	\$0	\$15
	(3).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$16
3.	Professio	nal Oversight							
	(1).	Field Technician	HR	32	\$0	\$0	\$50.00	\$1,600	\$1,60
	(2).	Hydrogeologist	HR	16	\$0	\$0	\$80.00	\$1,280	\$1,2
4.	Institutio	nal Controls							
	(1).	Deed Restrict/Entry Permit Recom'd	LS	1	\$0	\$0	\$5,000	\$5,000	\$5,0

5.	Excavation of Contaminated Soils and Replacement	ent with Clean Fill
		1.0

5.	Excavauo	on of Contaminated Soils and Replacement	with Cican i						
	(1).	Mobilization/demobilization	LS	1	\$0	\$0	\$1,000	\$1,000	\$1,000
	(2).	Crew Per Diem Expenses	DY	20	\$0	\$0	\$95	\$1,900	\$1,900
	(3).	Excavate	CY	4400	\$0	\$0	\$1.83	\$8,052	\$8,052
	(4).	Clean fill (haul, place, spread)	CY	530	\$8.53	\$4,521	\$4.17	\$2,210	\$6,731
	(5).	Replace overburden (stockpiled)	CY	3870	\$0	\$0	\$1.38	\$5,341	\$5,341
	(6).	Compaction	CY	4400	\$0	\$0	\$2.27	\$9,988	\$9,988
	(7).	Fine grading and seeding	SY	980	\$0.22	\$216	\$1.69	\$1,656	\$1,872
	(8).	Composite soil sampling and analysis	EA	20	\$0	\$0	\$225.00	\$4,500	\$4,500
	(9).	Install Fencing (6 ft chain link)	LF	200	\$9.00	\$1,800	\$1.00	\$200	\$2,000
	(10).	Remove Fencing	LF	200	\$0	\$0	\$0.75	\$150	\$150
	(11).	Decontamination	EA	2	\$30.00	\$60	\$200.00	\$400	\$460
6.	Groundw	ater Handling and Disposal							
	(1).	4" pump, including hose	DY	10	\$39.90	\$399	\$67.50	\$675	\$1,070
	(2).	Modular Tank Rental (8,000 gal)	MN	1	\$2,500	\$2,500	\$750	\$750	\$3,250
	(3).	Water aeration with blower	MN	1	\$1,200	\$1,200	\$300	\$300	\$1,500
	(4).	Disposal of recovered groundwater	GAL	7000	\$0	\$0	\$0.01	\$70	\$70
7.	Off-Site	Disposal (Type II landfill)							
	(1).	Haul and dispose	CY	630	\$0	\$0	\$38.40	\$24,192	\$24,192
	(2).	Incineration Fee	CY	630	\$0	\$0	\$1,250	\$787,500	\$787,500
	(3).	Tipping Fee	CY	630	\$0	\$0	\$35	\$22,050	\$22,050
		SUBTOTAL				\$15,400		\$881,300	\$896,700
						SUBTOTAL:		_	\$896,700
						SHIPPING:			\$1,500
						ENGINEERING:			\$179,300
						CONSTRUCTIO		ENT:	\$89,700
		CONTINGENCIES:						\$179,300	
						TOTAL (CAPIT	AL COSTS):		\$1,346,500

ALTERNATIVE 5: MONITORING; ICM; FOCUSED GROUNDWATER SPARGING AND SVE ESTIMATED CAPITAL COSTS

Project Name:

Amphenol Corp. / Franklin Power Products

Project No.:

07026.08

Costs include installation of additional groundwater monitoring wells required to sample impacted off-site groundwater along Forsythe Street. Costs also include installation of air sparging wells, SVE wells, and associated equipment.

Assumptions:

- Three monitoring wells will be required. (1).
- Monitoring wells will be flush mount type. (2).
- Total monitoring well depth is 18 feet. (3).
- Monitoring wells will be 4-inch diameter with 3 foot stainless steel screen and stainless steel casing. (4).
- All work will be done under Level D protection. (5).
- Ten air sparging wells will be installed; two SVE wells will be installed. (6).
- Total sparging well depth is 26 feet; total SVE well depth is 10 feet. (7).
- Sparging wells will be 2-inch diameter with 2-foot stainless steel screen and stainless steel casing. (8).
- SVE wells will be 4-inch diameter with 5-foot PVC screen and PVC casing. (9).
- Air sparging and SVE wells will be on rotating operation to limit size requrements of blowers. (10).
- No control of SVE system vapor emissions is included. (11).
- ICM air stripping system is in place and operational. (12).

SHIPPING FOR THIS PROJECT (%):

10

(cost of shipping equipment to site as a percentage of total equipment cost)

ENGINEERING FOR THIS PROJECT (%):

20

(estimate of engineering costs is based on total installed cost)

10

CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%): (estimate of construction management costs is based on total installed cost)

20

CONTINGENCIES FOR THIS PROJECT (%):

(based on total installed cost)

Estimated Capital Costs - Alternative 5: Monitoring; ICM; Focused Groundwater Sparging and SVE

ГЕМ #		WORK ITEM	UNIT	Estimated Quantity	Equip't/Mat'l Unit Price	Equip't/Mat'l Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price	
1.	Monitorin	g Well Installation								
	(1).	Mobilization/Demobilization	LS	1	\$430	\$430	\$825	\$825	\$1,255	
	(2).	Crew Per Diem Expenses	DY	3	\$0	\$0	\$95	\$285	\$285	
	(3).	Mud Drilling (4" diameter borehole)	LF	54	\$6.40	\$346	\$12.30	\$664	\$1,010	
	(4).	Filter Pack	LF	9	\$14.74	\$133	\$2.15	\$19	\$152	
	(5).	Concrete Surface Pad	EA	3	\$3.50	\$11	\$1.50	\$5	\$15	
	(6).	Grout	LF	45	\$1.67	\$75	\$0.00	\$0	\$75	
	(7).	Bentonite Seal	EA	3	\$60.37	\$181	\$12.07	\$36	\$217	
	(8).	Drums for Well Cuttings	EA	3	\$53.00	\$159	\$0.00	\$0	\$159	
	(9).	Manhole Cover	EA	3	\$78.00	\$234	\$26.82	\$80	\$314	
	(10).	Well Casing	LF	45	\$43.72	\$1,967	\$2.15	\$97	\$2,06	
	(11).	Well Screen	LF	9	\$52.86	\$476	\$2.15	\$19	\$49:	
	(12).	Move Drill Rig	EA	2	\$25.84	\$52	\$13.40	\$27	\$7	
	(13).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$16	
	(14).	Drum Disposal	EA	3	\$0.00	\$0	\$50.00	\$150	\$150	
2.	Monitoring Well Development									
	(1).	Equipment Rental	WK	1	\$427.00	\$427	\$0.00	\$0	\$427	
	(2).	Drums for Purge Water	EA	3	\$53.00	\$159	\$0.00	\$0	\$15	
	(3).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$16	
3.	Professio	nal Oversight								
	(1).	Field Technician	HR	32	\$0	\$0	\$50.00	\$1,600	\$1,60	
	(2).	Hydrogeologist	HR	16	\$0	\$0	\$80.00	\$1,280	\$1,28	
4.	Institutio	nal Controls								
	(1).	Deed Restrict/Entry Permit Recom'd	LS	1	\$0	\$0	\$5,000	\$5,000	\$5,00	

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5.	AII	Sp	arging	Wells

(1).	Crew Per Diem Expenses	DY	5	\$0	\$0	\$95	\$475	\$475
(2).	Mud Drilling (2" diameter borehole)	LF	260	\$4.90	\$1,274	\$11.60	\$3,016	\$4,290
(3).	Filter Pack	LF	20	\$8.50	\$170	\$1.50	\$30	\$200
(4).	Concrete Surface Pad	EA	10	\$3.50	\$35	\$1.50	\$15	\$50
(5).	Grout	LF	240	\$1.11	\$266	\$0.00	\$0	\$266
(6).	Bentonite Seal	EA	10	\$25.00	\$250	\$6.00	\$60	\$310
(7).	Drums for Well Cuttings	EA	10	\$53.00	\$530	\$0.00	\$0	\$530
(8).	Manhole Cover	EA	10	\$78.00	\$780	\$26.82	\$268	\$1,048
(9).	Well Casing (2" S.S.)	LF	240	\$19.30	\$4,632	\$1.69	\$406	\$5,038
(10).	Well Screen (2" S.S.)	LF	20	\$44.32	\$886	\$1.43	\$29	\$915
(11).	Move Drill Rig	EA	9	\$25.84	\$233	\$13.40	\$121	\$353
(12).	Decontamination	EA	1	\$10.00	\$10	\$60.00	\$60	\$70
(13).	Drum Disposal	EA	10	\$0.00	\$0	\$325.00	\$3,250	\$3,250

6. SVE Well Drilling & Completion

(1).	Crew Per Diem Expenses	DY	1	\$0	\$0	\$95	\$95	\$95
(2).	Mud Drilling (4" diameter borehole)	LF	20	\$6.40	\$128	\$12.30	\$246	\$374
(3).	Filter Pack	LF	10	\$14.74	\$147	\$2.15	\$22	\$169
(4).	Concrete Surface Pad	EA	2	\$11.70	\$23	\$2.80	\$6	\$29
(5).	Grout	LF	10	\$1.67	\$17	\$0.00	\$0	\$17
(6).	Bentonite Seal	EA	2	\$60.37	\$121	\$12.07	\$24	\$145
(7).	Drums for Well Cuttings	EA	1.	\$53.00	\$53	\$0.00	\$0	\$53
(8).	12" Manhole Cover	EA	2	\$105.00	\$210	\$26.82	\$54	\$264
(9).	Well Casing (4" PVC)	LF	10	\$12.50	\$125	\$2.15	\$22	\$147
(10).	Well Screen (4" PVC)	LF	10	\$14.50	\$145	\$2.15	\$22	\$167
(11).	Move Drill Rig	EA	1	\$25.84	\$26	\$13.40	\$13	\$39
(12).	Decontamination	EA	1	\$10.00	\$10	\$60.00	\$60	\$70
(13).	Drum Disposal	EA	1	\$0.00	\$0	\$325.00	\$325	\$330

7. Air Sparging Header Piping, Lateral Piping, Valves

(1).	Header Piping (6-inch)	LF	300	\$4.08	\$1,224	\$5.21	\$1,563	\$2,787
(2).	Lateral Piping (2-inch, 10 LF each well)	LF	100	\$1.45	\$145	\$5.46	\$546	\$691
(3).	Trenching/Backfill/Compaction	LF	350	\$0	\$0	\$5.50	\$1,925	\$1,930
(4)	Flow Monitoring Stations	EA	10	\$100	\$1,000	\$20.00	\$200	\$1,200

	(5).	Isolation Valves	EA	10	\$65	\$650	\$16.56	\$166	\$816
	(6).	Throttling valves	EA	10	\$65	\$650	\$16.56	\$166	\$816
8.	Air Sparg	ing Blower and Accessories							
	(1).	Blower (200 CFM @ 10 PSIG)	EA	1	\$6,300	\$6,300	\$750	\$750	\$7,050
	(2).	Suction and Discharge Piping (6-inch)	LS	1	\$500	\$500	\$500	\$500	\$1,000
	(3).	Electrical Terminations	LS	1	\$0	\$0	\$500	\$500	\$500
9.	Soil Vapo	or Extraction Header Piping, Lateral Piping,	and Valves						
	(1).	Header Piping (6-inch)	LF	250	\$4.08	\$1,020	\$5.21	\$1,303	\$2,323
	(2).	Lateral Piping (2-inch)	LF	40	\$1.45	\$58	\$5.46	\$218	\$276
	(3).	Trenching/Backfill/Compaction	LF	250	\$0	\$0	\$5.50	\$1,375	\$1,380
	(4).	Flow Monitoring Stations	EA	2	\$100	\$200	\$20.00	\$40	\$240
	(5).	Isolation Valves	EA	2	\$65	\$130	\$16.56	\$33	\$163
	(6).	Throttling valves	EA	2	\$65	\$130	\$16.56	\$33	\$163
10.	Soil Vapo	or Extraction Blower and Accessories							
	(1).	Blower (400 CFM @ 60" w.c. vac)	EA	1	\$14,200	\$14,200	\$235	\$235	\$14,435
	(2).	Suction and Discharge Piping (6-inch)	LS	1	\$500	\$500	\$500	\$500	\$1,000
	(3).	Electrical Terminations	LS	1	\$0	\$0	\$500	\$500	\$500
11.	Enclosur	e							
	(1).	Wood Sided Storage Garage	SF	80	\$12	\$960	\$15	\$1,200	\$2,160
	(2).	8" slab on grade	SF	80	\$3.75	\$300	\$1.75	\$140	\$440
	(4).	Signage	EA	10	\$30.00	\$300	\$20.00	\$200	\$500
12.	Utilities								
	(1).	Electrical Service to Enclosure	LS	1	\$500.00	\$500	\$1,500.00	\$1,500	\$2,000
		SUBTOTAL:				\$43,500		\$32,600	\$76,100

\$76,100
\$4,400
\$15,200
\$7,600
\$15,200
\$118,500

ALTERNATIVE 6: MONITORING; ICM; ACTIVATED CARBON ADSORPTION; REINJECTION ESTIMATED CAPITAL COSTS

Project Name:

Amphenol Corp. / Franklin Power Products

Project No.:

07026.08

Costs include installation of additional groundwater monitoring wells required to sample impacted off-site groundwater along Forsythe Street. Costs also include installation of an activated carbon system, associated transmission piping, reinjection wells and/or reinfiltration galleries.

Assumptions:

- Three monitoring wells will be required. (1).
- Monitoring wells will be flush mount type. (2).
- Total monitoring well depth is 18 feet. (3).
- Monitoring wells will be 4-inch diameter with 3 foot stainless steel screen and stainless steel casing. (4).
- All work will be done under Level D protection. (5).
- Activated carbon cells will be sized to handle the full flow from the ICM air stripper. (6).
- Approximately 20% of the treated groundwater will be disharged to the sanitary sewer; 80% will be reinjected. (7).
- Two injection wells will be required. (8).
- Total injection well depth is 26 feet. (9).
- Injection wells will be 6-inch diameter with 5 foot PVC screen and PVC casing. (10).
- ICM air stripping system is in place and operational. (11).

SHIPPING FOR THIS PROJECT (%): (cost of shipping equipment to site as a percentage of total equipment cost) ENGINEERING FOR THIS PROJECT (%):

(estimate of engineering costs is based on total installed cost)

CONSTRUCTION MANAGEMENT FOR THIS PROJECT (%):

(estimate of construction management costs is based on total installed cost)

CONTINGENCIES FOR THIS PROJECT (%):

(based on total installed cost)

Unit costs for certain items presented in this estimate taken from 1995 Means Construction and ECHOS Environmental Restoration cost estimation catalogs. Other costs presented in this estimate based on vendor quotes or past experience.

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Estimated Capital Costs - Alternative 6: Monitoring; ICM; Carbon Adsorption; Reinjection

Estimated Capital Costs - Alternative 6: Monitoring; ICM; Carbon Adsorption; Reinjection											
ITEM #	Barya. (1)	WORK ITEM	UNIT	Estimated Quantity	Equip't/Mat'l Unit Price	Equip't/Mat'l Extended Price	Labor Unit Price	Labor Extended Price	Total Installed Price		
u u		8888998900000000004 AM (,								
1.	Monitorin	ng Well Installation									
	(1).	Mobilization/Demobilization	LS	1	\$430	\$430	\$825	\$825	\$1,255		
	(2).	Crew Per Diem Expenses	DY	3	\$0	\$0	\$95	\$285	\$285		
	(3).	Mud Drilling (4" diameter borehole)	LF	54	\$6.40	\$346	\$12.30	\$664	\$1,010		
	(4).	Filter Pack	LF	9	\$14.74	\$133	\$2.15	\$19	\$152		
	(5).	Concrete Surface Pad	EA	3	\$3.50	\$11	\$1.50	\$5	\$15		
		Grout Grout	LF	45	\$1.67	\$75	\$0.00	\$0	\$75		
	(6). (7).	Bentonite Seal	EA	3	\$60.37	\$181	\$12.07	\$36	\$217		
	(8).	Drums for Well Cuttings	EA	3	\$53.00	\$159	\$0.00	\$0	\$159		
	(9).	Manhole Cover	EA	3	\$78.00	\$234	\$26.82	\$80	\$314		
	(10).	Well Casing	LF	45	\$43.72	\$1,967	\$2.15	\$97	\$2,064		
	(11).	Well Screen	LF	9	\$52.86	\$476	\$2.15	\$19	\$495		
	(11).	Move Drill Rig	EA	2	\$25.84	\$52	\$13.40	\$27	\$78		
	(12).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$160		
	(13).	Drum Disposal	EA	3	\$0.00	\$0	\$50.00	\$150	\$150		
2.	Monitori	ng Well Development									
	(1).	Equipment Rental	WK	1	\$427.00	\$427	\$0.00	\$0	\$427		
	(2).	Drums for Purge Water	EA	3	\$53.00	\$159	\$0.00	\$0	\$159		
	(3).	Decontamination	EA	3	\$8.00	\$24	\$45.00	\$135	\$160		
3.	Professio	onal Oversight									
	(1).	Field Technician	HR	32	\$0	\$0	\$50.00	\$1,600	\$1,600		
	(2).	Hydrogeologist	HR	16	\$0	\$0	\$80.00	\$1,280	\$1,280		
4.	Institutio	onal Controls									
	(1).	Deed Restrict/Entry Permit Recom'd	LS	1	\$0	\$0	\$5,000	\$5,000	\$5,000		

5. Activated Carbon System/Transmission Piping

UDDE Carbon Calle (25 anm)	EA	2	\$3,200	\$6,400	\$250.00	\$500	\$6,900
		800		\$1,400	\$0.00	\$0	\$1,400
		1		The state of the s	\$900.00	\$900	\$1,500
		17					\$480
Interim Holding Tank (500 gal - HDPE)	EA	1					\$1,280
Carbon Cell/Reinjection Pump	EA	1	\$875				
	EA	4	\$65.00	\$260	\$16.56	\$66	\$330
	EA	2	\$65.00	\$130	\$16.56	\$33	\$160
		2	\$500.00	\$1,000	\$90.00	\$180	\$1,180
		725			\$5.46	\$3,959	\$5,010
							\$3,580
Trenching/Backfill/Compaction	LF	650	20	20	φ3.50	Ψ5,575	43,000
	HDPE Carbon Cells (25 gpm) Activated Carbon (400 lb./cell) 2" Sch 80 PVC Header w/valves Interim Holding Tank (500 gal - HDPE) Carbon Cell/Reinjection Pump Isolation Valves Throttling Valves Flow/Pressure Indication Trans. Piping/Fittings (2" sch 80 PVC) Trenching/Backfill/Compaction	Activated Carbon (400 lb./cell) 2" Sch 80 PVC Header w/valves Interim Holding Tank (500 gal - HDPE) Carbon Cell/Reinjection Pump EA Isolation Valves Throttling Valves Flow/Pressure Indication Trans. Piping/Fittings (2" sch 80 PVC) LB LB LS LS LS LS LS LS LS LS	Activated Carbon (400 lb./cell) 2" Sch 80 PVC Header w/valves Interim Holding Tank (500 gal - HDPE) Carbon Cell/Reinjection Pump Isolation Valves Throttling Valves Flow/Pressure Indication Trans. Piping/Fittings (2" sch 80 PVC) LB 800 LB 801 EA 1 EA 2 EA 2 Trans. Piping/Fittings (2" sch 80 PVC) LF 725	Activated Carbon (400 lb./cell) 2" Sch 80 PVC Header w/valves Interim Holding Tank (500 gal - HDPE) Carbon Cell/Reinjection Pump EA 1 \$875 Isolation Valves EA 4 \$65.00 Throttling Valves EA 2 \$500.00 Flow/Pressure Indication Trans. Piping/Fittings (2" sch 80 PVC) LB 800 \$1.75 \$600 \$1.75 EA 1 \$875 EA 2 \$65.00 \$500.00 Trans. Piping/Fittings (2" sch 80 PVC) LF 725 \$1.45	Activated Carbon (400 lb./cell) 2" Sch 80 PVC Header w/valves Interim Holding Tank (500 gal - HDPE) Carbon Cell/Reinjection Pump EA Isolation Valves EA 4 565.00 S1.75 \$1,400 \$600 \$600 Interim Holding Tank (500 gal - HDPE) EA I \$875 \$875 \$875 Isolation Valves EA 4 \$65.00 \$260 Throttling Valves EA 2 \$65.00 \$130 Flow/Pressure Indication EA 2 \$500.00 \$1,000 Trans. Piping/Fittings (2" sch 80 PVC) LF 725 \$1.45 \$1,051	Activated Carbon (400 lb./cell) 2" Sch 80 PVC Header w/valves Interim Holding Tank (500 gal - HDPE) Carbon Cell/Reinjection Pump Isolation Valves EA 4 55.00 EA 50.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$0.00 \$	HDPE Carbon Cells (25 gpm) EA Z 35,260 \$6,175 \$1,400 \$0.00 \$0 Activated Carbon (400 lb./cell) LB 800 \$1.75 \$1,400 \$0.00 \$90 2" Sch 80 PVC Header w/valves LS 1 \$600 \$600 \$900.00 \$900 Interim Holding Tank (500 gal - HDPE) EA 1 \$425 \$425 \$50.00 \$50 Carbon Cell/Reinjection Pump EA 1 \$875 \$875 \$200.00 \$400 Isolation Valves EA 4 \$65.00 \$260 \$16.56 \$66 Throttling Valves EA 2 \$65.00 \$130 \$16.56 \$33 Flow/Pressure Indication EA 2 \$500.00 \$1,000 \$90.00 \$180 Trans. Piping/Fittings (2" sch 80 PVC) LF 725 \$1.45 \$1,051 \$5.50 \$3.575

6. Reinjection Wells

(1)	C Per Diem Evnenses	DY	2	\$0	\$0	\$95	\$190	\$190
(1).	Crew Per Diem Expenses	LF	52	\$8.40	\$437	\$15.30	\$796	\$1,232
(2).	Mud Drilling (6" diameter borehole)	LF	10	\$16.44	\$164	\$2.45	\$25	\$189
(3).	Filter Pack Concrete Surface Pad	EA	2	\$11.70	\$23	\$2.80	\$6	\$29
(4).	Grout	LF	42	\$2.35	\$99	\$0.00	\$0	\$99
(5).	Bentonite Seal	EA	2	\$64.37	\$129	\$12.07	\$24	\$153
(6). (7).	Drums for Well Cuttings	EA	2	\$53.00	\$106	\$0.00	\$0	\$106
(8).	Manhole Cover	EA	2	\$105.00	\$210	\$26.82	\$54	\$264
(9).	Well Casing (6" PVC)	LF	42	\$19.50	\$819	\$5.75	\$242	\$1,061
(10).	Well Screen (6" PVC)	LF	10	\$24.50	\$245	\$5.50	\$55	\$300
(11).	Move Drill Rig	EA	1	\$25.84	\$26	\$13.40	\$13	\$39
(12).	Decontamination	EA	1	\$15.00	\$15	\$150.00	\$150	\$170
(13).	Drum Disposal	EA	2	\$0.00	\$0	\$325.00	\$650	\$650

7. Enclosure

(1)	Wood Sided Storage Garage	SF	80	\$12	\$960	\$15	\$1,200	\$2,160
(1).	물론 마음이 경험을 받으면 하는 것이 되었다.	SF	80	\$3.75	\$300	\$1.75	\$140	\$440
(2).	8" slab on grade	EA	10	\$30.00	\$300	\$20.00	\$200	\$500
(3)	Signage	EA	10	Φ50.00	Φ500	4=0.00		